

tion present. Oxide of copper was employed at first for the combustions, but they were subsequently undertaken with chromate of lead, on account of the large proportion of carbon that excretine contains; no substance having been found to combine with it, its atomic composition was calculated from the assumption that one equivalent contained one equivalent of sulphur; and the following formula was obtained:—

78 eq. Carbon	468
78 eq. Hydrogen	78
1 eq. Sulphur	16
2 eq. Oxygen	16

Atomic weight of Excretine 578

In my former communication I had stated that when the tissue of the spleen is submitted to a process of analysis similar to that adopted for the extraction of excretine, a substance closely allied to cholesterine is obtained. This subject being one of great importance in a physiological point of view, I have resumed the investigation, and placed beyond doubt that this substance is really *cholesterine*. Its presence in the spleen is evidently independent of that which might exist in the blood retained by this organ after death. Is it that the spleen secretes cholesterine? This can only be determined by actual experiment; but it is very remarkable that a part of the blood which is supplied to the liver should come directly from an organ containing large quantities of a substance known to enter into the composition of the bile.—*Med. Times and Gaz.*, Oct. 24, 1857.

MATERIA MEDICA AND PHARMACY.

11. *Permanganate of Potash as a Caustic, Deodorant, and Stimulant.*—Dr. D. F. Girwood extols (*Lancet*, Sept. 12, 1857) the permanganate of potash as a caustic, deodorant, and stimulant, and if what he states in regard to it shall be confirmed by the experience of others, it will be a most valuable medicinal agent.

“As a deodorant, as an escharotic, as a stimulant,” he asserts, “it is a most useful application, combining, as it does, all these three qualities.”

In a case of cancer of the os uteri, Dr. G. employed it in the double capacity of deodorant and escharotic, to destroy the fetid odour and to check the exuberant granulations, and induce a healthy appearance of the ulcerated surface. He injected twenty grains to the pint of water frequently during the day, with much benefit.

In a case of cancer of the breast he applied it in powder sprinkled on the sloughy mass, and as a lotion (ten grains to the ounce). From a gaping sore, in most offensive condition, it occasioned the wound to assume in some parts a disposition to granulate, and it entirely removed the offensive odour of the apartment.

In various other cases of offensive ulcers he has used it with equal advantage.

When it is wished to destroy masses of cancerous growth Dr. G. uses it in a solid form, either as a powder, or in a mass as the sulphate of copper or other caustics. A piece of lint wet with the lotion, of the strength of two to twenty grains, Dr. G. says, supersedes all the charcoal, yeast and carrot poultices.

A teaspoonful of the substance mixed with a tablespoonful of water in a dinner plate, and placed under the bed or anywhere convenient destroys all odour, and it has this great advantage over other deodorants, that it has no odour of its own. Most deodorants are themselves a nuisance, for while destroying one odour they create another; the permanganate is free from this.

12. *On the Oriental Bath.*—Dr. HAUGHTON read before the Physiological Section of the British Association at its recent meeting at Dublin, the following interesting paper on this subject:—

"Some months ago, my attention being drawn to the oriental bath as a sanitary institution, I was induced to undertake a journey to the East, for the express purpose of determining what were its claims to consideration; and with this view I remained a month in Constantinople, collecting whatever information was to be had upon this subject, which is now commencing to attract so much attention in this country.

"This bath is best known to the western nations by the name of 'The Turkish Bath,' having been described under that title in most of the accounts which have appeared before the British public; but the truth is, that there is scarcely a nation in the East which does not possess a somewhat similar institution. There is a prevailing prejudice that the Eastern bath is only suited for tropical climates, and could not be adopted in these latitudes without danger; but we find that not only the ancient Greeks, but also the Romans, were acquainted with its virtues, and thought no expense too great to enable them to confer upon every citizen the luxury of cleanliness, the foundation of all sanitation.

"It was the custom of the Romans to build baths in the different countries which they conquered; and accordingly the historian Justin informs us that they introduced them into Spain, after the second Punic war, where they continued in operation long after their suppression in other parts of Europe. From thence, according to Baccius, they passed into Germany and France, and even into the British Islands; and there is reason to believe, that were antiquarian research directed to this point, remains would be found in these countries, not upon the same scale as those of France and Germany, but sufficiently perfect to show the principle upon which they were constructed. It is of great importance that this principle should be well understood, and especially that we should observe the difference between it and the Russian vapour bath, which it most resembles. It is simply that of an oven, large enough to walk about in, and lighted from the top, that you may see what you are doing. The medium by which the bather is surrounded is hot air, containing a little moisture, that the tissues may not experience too great desiccation from its contact, and that the softening of the loosened scales of epidermis, which is so essential, may be the sooner effected. In this bath, water is not absorbed by the skin, as in the Russian vapour bath, or the steam baths of this country; but it is, on the contrary, given out by both the pulmonary and cutaneous surfaces in great abundance.

"In the Russian bath, as described by Sir George Lefevre, the vapour is raised by pouring water over a stove, whilst the American Indian uses for the same purpose red-hot stones, covered by the inner bark of oak, and upon which a small quantity of water is poured, to prevent too great desiccation; thus resembling the Oriental bath in being a sweating process, while it differs from it in the subsequent immersion in cold water, which is not practised by the Turks, although cold plunge baths, and even douches, may be found in Egypt, in connection with the more essential processes presently to be described. In the Western steam bath the vapour is obtained by boiling water externally, and is conducted by pipes into the box or chamber which is employed; but it operates on the system rather by virtue of its derivative and sedative action, than in consequence of any depurative or diaphoretic effect. All admit the advantage of keeping the *cutaneous* surface in such a condition as may be most favourable for elimination of the different substances which are got rid of by means of this extensive system of drainage. But it is also worthy of remark, that the pulmonary mucous membrane is capable of acting as an excreting surface, especially when the body is exposed to the influence of hot air, as in the Oriental bath. In this way a large quantity of alcohol and nicotine is excreted in those accustomed to the use of spirits and tobacco—the powerful odour communicated to the breath betraying the exit of the poison. In experiments made on the lower animals with phosphorus, this substance has also been exhaled with the expired air, the appearance presented in a darkened chamber being that of waves of light issuing from the nostrils. Now, while this pulmonary transpiration is very much increased in a hot, dry atmosphere, it is almost completely checked when the air to be respired is heavily loaded with vapour, as is also the case with the functions of the skin. This is what

constitutes the most striking difference between the bath of Eastern nations and the vapour baths of the West; and it is by no means an unimportant difference, inasmuch as the perspiration is intended by nature not merely as a means of ejecting superfluous moisture and effete tissue, but also as a natural safeguard to prevent the temperature of the body from being raised to an injurious extent. This safety valve does not exist in the vapour bath; and in using it our very lives may be said to be dependent upon a thermometer; for, evaporation being checked, the temperature of the body may be very quickly raised, and accidents are by no means rare from inexperience or carelessness in the administration of the different forms of steam baths. People also imagine that when in these baths they perspire very profusely, because on going out of them they are covered with large drops; but nine-tenths of these are simply the superfluous vapour which has condensed upon the body, and whose presence greatly impedes the natural exudation. In the Oriental bath, the small quantity of vapour which exists is only that which is produced by the water which is spilled on the hot floor during washing, and produces an agreeable soothing effect, instead of that suffocating sensation which one experiences in the Russian bath, in which, after having been half boiled, you are scrubbed with a hard brush, and flagellated with a bunch of twigs.

"The first chamber which is entered serves as a dressing-room, where the clothes are deposited previous to entering the hot chambers, and where the bather remains to cool himself on leaving them. For this reason it was called the *frigidarium* by the Romans, although the temperature is about 25° centigrade, or something over the summer heat of our thermometers. The next room is about 10° hotter, and is called the *tepidarium*, where the bather reclines, and drinks some hot coffee, or smokes, until he is in a proper condition for entering the third chamber, which is only about 5° hotter. I paid particular attention to this point when in Constantinople, always bringing my thermometer into the bath, and in no instance did I find the heat above 40° centigrade (104° Fahrenheit). Were it considered necessary, however, an enormous heat could be endured in the Oriental bath. A French gentleman, who was nearly suffocated by the vapour of the baths of Nero, near Pozzuoli, in a temperature of 122° Fahrenheit, was able to bear a heat of 176° Fahrenheit, in dry air, without inconvenience. The floor of the bath being the hottest part, the stratum of air next it ascends continually, carrying with it the superfluous vapour, which condenses upon the roof, and creates an imperceptible current, which suffices to purify the atmosphere. In the third or hot chamber, corresponding to the *laconicum* of the Spartans, and the *calidarium* of the Romans, the bather is shampooed—a kind of kneading of the muscles; and the dead skin, with its adherent impurities, is removed by means of the goat's-hair glove; and the amount of extraneous matter which is thus collected from the most cleanly person, will excite some surprise in those only accustomed to the use of soap and water.

"After the use of the glove the bather is next thoroughly washed with soap and hot water, performing part of the washing himself, as he is never naked during any part of the bath, the Turks especially being most scrupulous in this respect. When he gets up he puts on a pair of wooden pattens, to keep his feet off the hot floor, and returns to the second chamber, where he is lightly wiped, and again clad with warm towels, the head being bound up to avoid taking cold. The bath is now finished, but it would be imprudent to go out without remaining some time in the *frigidarium* to become cool. Here it is customary to lie down, well swathed in towels, and to drink some sherbet or coffee, and smoke. Nor does the bather require much persuasion to induce him to stop, as the sensations are so delicious, that it is only necessary to lie still to enjoy a mental calm and exquisite consciousness of health that few of us have ever experienced.

"Here we have a pleasure which is not a vice—a luxury which does *not* tend to shorten life; and which only awaits a sufficient demand to give encouragement to capital, that it may become at once cheap and universally attainable. There is no drug in the *Materia Medica* at all comparable with it as a purifier of the blood; for even poisons are thus eliminated from the system; and it is

well known that alcohol is frequently taken by the Turks in large quantities without producing inebriation. Besides which, they enjoy an immunity more or less complete from various diseases which are here prevalent, and which would be quite unaccountable were the influence of the bath to be denied. Gout is scarcely known; rheumatism is rare, and soon cured; workers in lead paints seldom are affected by colica pictonum; chronic skin diseases are very rare, and pulmonary consumption much less common than with us.

"The Turks are indeed seldom ill, and are, on the whole, longer lived than the Western nations, if one may be allowed to judge from the number of old men to be seen in the streets, for unfortunately the government keeps no statistics. The physicians who have had the most experience in attending them are, moreover, of opinion that these happy results are really owing to the great attention which they bestow upon the functions of the skin; and Dr. Millinger (the Sultan's physician) informs me that the Turks themselves have always considered the public baths of Constantinople as supplying the place of a certain number of hospitals, which must otherwise be built. Of the former there are 300 open to the public, and every gentleman who can afford it has a private one in his own house; while there are only two or three public civil hospitals for a population of 900,000 souls, nor were these at all crowded when I was in Constantinople.

"Facts like these may lead us to inquire whether the office which nature has intended for the skin is not really much more important than we are in the habit of considering it; and whether cutaneous respiration be really restricted to the lower animals.

"It is an important practical question to the British public to know whether the Oriental bath is, in the first place, conducive to health, and, in the second, whether it is suitable to this climate. The first of these questions has been answered over and over again by travellers who have thus recruited their wearied frames, and by the experience of one-fourth of the population of the world, who look upon the bath as not merely the greatest of luxuries, but as a necessity, without which life would be a burden to them.

"We may perhaps be told that the bath has been discontinued in the west of Europe, because it was found unsuited for the climate and the genius of the people; but history furnishes other reasons to account for its disappearance—luxury and depravity did indeed enter the sanctuary, and in the endeavour to suppress them, the temple of cleanliness was destroyed. In the time of Constantine, a regular crusade was waged against them by the clergy, and the civil power being placed in their hands almost without restriction, they destroyed at one fell swoop the two greatest bulwarks by which the physical energy of the people had been preserved—bodily exercise capable of acting upon the entire muscular system, and a habit of cleansing the entire body. Thus fell the baths and gymnasia of Europe. The ancient bath is worthy of restoration, both as a hygienic and remedial agent. A beginning has already been made, and our native land has taken the initiative; the only building of this kind in the west of Europe being lately opened in the neighbourhood of the city of Cork, where it is used as a medical agent, with, I understand, considerable success. No doubt, further improvements will shortly be made, which will render it more serviceable as a remedy, both by additions and alterations in its manner of working. I myself have suggested the introduction of a certain measured quantity of pure oxygen gas, which may readily be done by means of small tubes, whenever that element may appear to require renewal; and I am not without hopes that I may soon be enabled to bring before the profession some further communication upon this interesting subject."—*Dublin Hospital Gazette*, Sept. 15, 1857.

13. *On the Preparation of Valerianate of Ammonia of Definite Composition.*—This salt had hitherto not been obtained in a state of purity, and in the solid form. In fact, even in the most recent treatises on chemistry, the valerianate of ammonia is described as being liquid and amorphous; and the manufacturers of chemical products have been unable to supply it in a solid and crystallized state, pure, and of uniform composition. MM. Laboureur and Fontaine